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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/699,820	11/04/2003	Sung Uk Moon	244927US90	4464
22850	7590	10/12/2010	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, L.L.P. 1940 DUKE STREET ALEXANDRIA, VA 22314			DEAN, RAYMOND S	
			ART UNIT	PAPER NUMBER
			2618	
			NOTIFICATION DATE	DELIVERY MODE
			10/12/2010	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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**Office Action Summary**

<b>Application No.</b> 10/699,820	<b>Applicant(s)</b> MOON ET AL.	
<b>Examiner</b> RAYMOND S. DEAN	<b>Art Unit</b> 2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1)  Responsive to communication(s) filed on 16 July 2010.
- 2a)  This action is **FINAL**.                      2b)  This action is non-final.
- 3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4)  Claim(s) 1-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5)  Claim(s) \_\_\_\_\_ is/are allowed.
- 6)  Claim(s) 1,4,6,7,11,13-18,20,21,23-25,27 and 28 is/are rejected.
- 7)  Claim(s) 19,22,26 and 29 is/are objected to.
- 8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9)  The specification is objected to by the Examiner.
- 10)  The drawing(s) filed on 04 November 2003 is/are: a)  accepted or b)  objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All    b)  Some \*    c)  None of:
1.  Certified copies of the priority documents have been received.
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1)  Notice of References Cited (PTO-892)
- 2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3)  Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5)  Notice of Informal Patent Application
- 6)  Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Kim et al. (US 7,146,552), which also teaches the use of modulation and coding for the transmission of data, teaches an error correction method applied to the transmitted information (Cols. 1 lines 63 - 67, 2 lines 1 - 9, 7 lines 47 - 50).

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 4, 14 – 15, 16, 18, 23, 25, 20, 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trossen et al. (US 7,054,643) in view of Kim et al. (US 7,286,558)(Kim1) and in further view of Kim et al. (US 7,146,552)(Kim2)

Regarding Claim 1, Trossen teaches a radio communication system for performing multicast communication comprising: a reception ability value collector configured to collect a reception ability value of each mobile station belonging to a specific multicast group (Cols: 3 lines 35 – 39, 4 lines 6 – 11, 5 lines 20 – 43, 6 lines 4 – 24, Table 1); a radio resource manager configured to manage available radio

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resources (Col. 6 lines 16 – 20, efficiently managing the frequency spectrum, which is a radio resource a transmission method determiner configured to determine a transmission method of transmitting information in accordance with the collected reception ability value (Col. 5 lines 38 – 39, modulation-coding schemes); a transmission method determiner configured to determine the transmission method in accordance with the reception ability value and the available radio resources, so that a mobile station belonging to the specific multicast group equipped with a lowest reception ability can receive the information using the determined transmission method (Cols. 5 lines 20 – 43, 6 lines 4 – 24, lines 39 – 41, lines 60 – 67, 7 lines 1 – 2, lines 60 – 67, 8 lines 5 – 7, lines 1 – 36); and a transmitter configured to transmit the information to each mobile station belonging to the specific multicast group using the determined transmission method without precluding a new mobile station that attempts to join the specific multicast group from joining the specific multicast group (Col. 12 lines 38 – 51).

Trossen does not teach wherein the reception ability value defines a reception buffer size of each mobile station and wherein the transmission method is determined by at least one of a hierarchical organization of the transmitted information, an amount of transmitted information, a number of codes used to code the transmitted information, an error correction method applied to the transmitted information, and a number of blocks of transmitted information.

Kim1, which also teaches a wireless system wherein the base station determines maximum data rate that a mobile station can support, teaches a reception ability value

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that defines a reception buffer size of each mobile station (Col. 8 lines 31 – 34, each mobile station uses the supplemental channel to transmit data to the base station thus there will be a determination of the buffer size of each mobile, the buffer will receive data for the purpose of transmitting or receiving thus said buffer is a reception buffer).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Trossen with above feature of Kim1 as an alternative means for achieving the predictable result of determining the maximum data rate that a mobile station can support.

Kim2, which also teaches the use of modulation and coding for the transmission of data, teaches an error correction method applied to the transmitted information (Cols. 1 lines 63 - 67, 2 lines 1 - 9, 7 lines 47 - 50).

It would have been obvious to modify the system of Trossen in view of Kim1 with the above technique of Kim2 for the purpose of improving system performance by uniting puncturing for channel coding with puncturing for rate matching as taught by Kim2.

Regarding Claim 4, Trossen teaches a radio station comprising: a reception ability value collector configured to collect a reception ability value of each mobile station belonging to a specific multicast group (Figure 5, Cols: 3 lines 35 – 39, 4 lines 6 – 11, 5 lines 20 – 43, 6 lines 4 – 24, 10 lines 1 – 4, Table 1); a radio resource manager configured to manage available radio resources (Col. 6 lines 16 – 20, efficiently managing the frequency spectrum, which is a radio resource a transmission method determiner configured to determine a transmission method of transmitting information

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in accordance with the collected reception ability value (Col. 5 lines 38 – 39, modulation-coding schemes); a transmission method determiner configured to determine the transmission method in accordance with the reception ability value and the available radio resources, so that a mobile station belonging to the specific multicast group equipped with a lowest reception ability can receive the information using the determined transmission method (Cols. 5 lines 20 – 43, 6 lines 4 – 24, lines 39 – 41, lines 60 – 67, 7 lines 1 – 2, lines 60 – 67, 8 lines 5 – 7, lines 1 – 36); and a transmitter configured to transmit the information to each mobile station belonging to the specific multicast group using the determined transmission method without precluding a new mobile station that attempts to join the specific multicast group from joining the specific multicast group (Col. 12 lines 38 – 51).

Trossen does not teach wherein the reception ability value defines a reception buffer size of each mobile station and wherein the transmission method is determined by at least one of a hierarchical organization of the transmitted information, an amount of transmitted information, a number of codes used to code the transmitted information, an error correction method applied to the transmitted information, and a number of blocks of transmitted information.

Kim1, which also teaches a wireless system wherein the base station determines maximum data rate that a mobile station can support, teaches a reception ability value that defines a reception buffer size of each mobile station (Col. 8 lines 31 – 34, each mobile station uses the supplemental channel to transmit data to the base station thus

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there will be a determination of the buffer size of each mobile, the buffer will receive data for the purpose of transmitting or receiving thus said buffer is a reception buffer).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Trossen with above feature of Kim1 as an alternative means for achieving the predictable result of determining the maximum data rate that a mobile station can support.

Kim2, which also teaches the use of modulation and coding for the transmission of data, teaches an error correction method applied to the transmitted information (Cols. 1 lines 63 - 67, 2 lines 1 - 9, 7 lines 47 - 50).

It would have been obvious to modify the system of Trossen in view of Kim1 with the above technique of Kim2 for the purpose of improving system performance by uniting puncturing for channel coding with puncturing for rate matching as taught by Kim2.

Regarding Claims 14, 15, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claim 1, 4. Trossen further teaches wherein the transmission method determiner is configured to determine the transmission method so that the mobile station belonging to the specific multicast group equipped with a lowest reception ability can receive the information using the determined transmission method, even when at least one mobile station capable of receiving the information using a transmission method corresponding to a more robust reception ability value exists in the specific multicast group (Cols. 6 lines 16 - 20, lines

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39 - 41, lines 60 - 67, 7 lines 1 - 2, lines 60 - 62, 8 lines 5 - 7, lines 14 - 36, See Response To Arguments in Office Action dated June 15, 2009).

Regarding Claims 16, 23, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claim 1, 4. Trossen further teaches wherein the transmission method is determined by the amount of transmitted information (Col. 5 lines 38 - 39, the modulation coding parameters define a particular data rate, which renders a particular amount of transmitted information).

Regarding Claims 18, 25, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claim 1, 4. Kim2 further teaches wherein the transmission method is determined by the error correction method applied to the transmitted information (Cols. 1 lines 63 - 67, 2 lines 1 - 9, 7 lines 47 - 50)

Regarding Claims 20, 27, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claim 18, 25. Kim2 further teaches wherein the error correction method applied to the transmission information includes turbo codes (Col. 1 lines 63 - 67).

4. Claims 6, 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trossen et al. (US 7,054,643) in view of Kim et al. (US 7,286,558)(Kim1) in view of Kim et al. (US 7,146,552)(Kim2) and in further view of Hundscheidt et al. (US 7,499,466)

Regarding Claims 6, 11, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claims 4, 1. Trossen in view of Kim1



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and in further view of Kim2 does not teach wherein the transmission method is determined by the hierarchical organization of the transmitted information.

Hundscheidt, which also teaches communicating via multicast, teaches hierarchical organization of the transmitted information (Col. 7 lines 15 – 19, 44 – 45, the multicast groups are prioritized thus the information intended for said prioritized groups is prioritized).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Trossen in view of Kim1 and in further view of Kim2 with the above feature of Hundscheidt for the purpose of providing an efficient provision of multicast data delivery as taught by Hundscheidt.

5. Claims 7, 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trossen et al. (US 7,054,643) in view of Kim et al. (US 7,286,558)(Kim1) and in further view of Kim et al. (US 7,146,552)(Kim2), as applied to Claims 4, 1 set forth above, and further in view of Agrawal et al. (US 6,748,234)

Regarding Claims 7, 13, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claims 4, 1. Trossen in view of Kim1 and in further view of Kim2 does not teach wherein the radio resource is defined by at least one of transmission power, the numbers of codes, the numbers of frequencies and propagation conditions.

Agrawal, which also teaches a CDMA2000 system, teaches wherein the radio resource is defined by transmission power (Col. 3 lines 53 – 59).

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Trossen in view of Kim1 and in further view of Kim2 with the above feature of Agrawal for the purpose of compensating for power fluctuations associated with fading as taught by Agrawal.

6. Claims 17, 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trossen et al. (US 7,054,643) in view of Kim et al. (US 7,286,558)(Kim1) and in further view of Kim et al. (US 7,146,552)(Kim2), as applied to Claims 1, 4 set forth above, and further in view of Yoshida et al. (US 2002/0016944)

Regarding Claims 17, 24, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claim 1, 4. Trossen in view of Kim1 and in further view of Kim2 does not teach wherein the transmission method is determined by the number of codes used to code the transmitted information.

Yoshida, which also teaches error correction, teaches a number of codes used to code transmitted information (Section 0014 lines 1 - 5).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the above feature of Yoshida in the system of Trossen in view of Kim1 and in further view of Kim2 for the purpose of transmitting data with high speed and high reliability as taught by Yoshida.

7. Claims 21, 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Trossen et al. (US 7,054,643) in view of Kim et al. (US 7,286,558)(Kim1) and in further

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view of Kim et al. (US 7,146,552)(Kim2), as applied to Claims 1, 4 set forth above, and further in view of Miller et al. (6,151,696)

Regarding Claims 21, 28, Trossen in view of Kim1 and in further view of Kim2 teaches all of the claimed limitations recited in Claims 1, 4. Trossen in view of Kim1 and in further view of Kim2 does not teach wherein the transmission method is determined by the number of blocks of transmitted information.

Miller, which also teaches a multicast system, teaches wherein the transmission method is determined by the number of blocks of transmitted information (Col. 3 lines 47 – 50).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Trossen in view of Kim1 and in further view of Kim2 with the above feature of Miller for the purpose of providing fast and reliable transmission of data as taught by Miller.

### ***Allowable Subject Matter***

8. Claims 19, 22, 26, 29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record fails to teach or render obvious the following:

**wherein the error correction method applied to the transmitted information includes collapse codes and wherein the transmission method is determined by the hierarchical organization of the transmitted information, which indicates a method of transmitting the information organized hierarchically by a modulation method used to modulate the transmitted information, a transmission power used to transmit the transmitted information, the numbers of codes used to code the transmitted information, the numbers of blocks of transmitted information, and an importance of the transmitted information**

#### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAYMOND S. DEAN whose telephone number is (571)272-7877. The examiner can normally be reached on Monday-Friday 6:00-2:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward F. Urban can be reached on 571-272-7899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Raymond S Dean/  
Examiner, Art Unit 2618  
Raymond S. Dean  
September 30, 2010